INTERNATIONAL MONETARY FUND

IMPROVING CROSS-SECTOR DATA CONSISTENCY

May 30, 2013

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International Monetary Fund
Washington, D.C.

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EXECUTIVE SUMMARY

The objective of the paper is to inform Executive Directors of recent work undertaken by the Statistics Department (STA) to further enhance data consistency.

STA works to promote high quality statistics as essential pre-requisites for the formulation of appropriate macroeconomic and financial policies. Such work supports IMF surveillance and goals that are articulated in Board papers pertaining to Data Provision to the Fund for Surveillance Purposes; the G-20/IMFC Data Gaps Initiative; and the Fund's Data Standards Initiatives. All these initiatives are motivated by the Executive Directors' interest in better and more consistent data.

An important element of STA's work program is the project to improve cross-sector data consistency. This project has focused on an initial set of countries that reflect the diverse nature of the IMF's membership, and on selected data series. Data inconsistencies across macroeconomic datasets (financial, government, external, and national accounts statistics) have been found to exist for most countries, regardless of their size and level of development. Such inconsistencies may arise from a variety of reasons, including methodological differences and different data vintages.

The project has been favorably received by member countries and has enhanced cooperation at both the international and national levels. Indeed, because a number of agencies within a country may be involved in compiling macroeconomic statistics, the project has encouraged strengthened national inter-agency cooperation to resolve inconsistencies.

In spite of ongoing efforts, many inconsistencies persist, and new inconsistencies may sometimes arise. A significant initial finding is that countries may face challenges in improving cross-sector data consistency. In particular, member country resource constraints often limit the scope of their work in the short– and medium–term.

Next steps. The recent work undertaken by STA has yielded significant positive results in a relatively brief period of time. Therefore, next steps involve expanding this work to eventually cover all countries, and monitoring inconsistencies on an ongoing basis so that they are not allowed to persist without follow-up with countries.

Approved By
Alfredo M. Leone

Prepared by Florina Tanase with contributions from members of STA's Cross-Sector Consistency Group (Appendix I)

CONTENTS

Glossary

BOPCOM	IMF Committee on Balance of Payments Statistics
CDIS	Coordinated Direct Investment Survey
CSCG	Cross-Sector Consistency Group
DCs	Depository Corporations
DGI	G-20/IMFC Data Gaps Initiative
DOTS	*Direction of Trade Statistics*
DQAF	Data Quality Assessment Framework
ECB	European Central Bank
GFS	Government Finance Statistics
IFS	*International Financial Statistics*
IIP	International Investment Position
IMTS	International Merchandise Trade Statistics
MFS	Monetary and Financial Statistics
ODCs	Other Depository Corporations
PGI	Principal Global Indicators
ROSC	Report on the Observance of Standards and Codes
SDDS	Special Data Dissemination Standard
TA	Technical Assistance
TOR	Terms of Reference

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INTRODUCTION

1. **Data inconsistencies among related macroeconomic datasets exist for most countries, regardless of their size and level of development.** STA has stepped up its efforts in recent years to minimize inconsistencies in its disseminated data, and to understand reasons for inconsistencies that remain outstanding. These efforts support STA's overall strategy to enhance data quality, which in turn facilitates economic analysis of member countries, and the Fund's bilateral and multilateral surveillance.

2. **In recognition of the importance of addressing inconsistencies in data that are reported to STA for different economic sectors,[1] STA management established in March 2012 the Cross-Sector Consistency Group (CSCG) to lead the work in this area.[2]** The main objective of the CSCG is to enhance the consistency of macroeconomic datasets reported to STA to facilitate economic analysis and support IMF bilateral and multilateral surveillance. The CSCG provides a forum for identifying and discussing data inconsistencies, and developing plans and taking actions to address them in collaboration with other Fund departments and reporting countries.

3. **STA's work on further enhancing data consistency has received broad support from member countries, other Fund's departments, relevant international organizations, and the statistical community.** Strong support was demonstrated at the recent meeting of the IMF Committee on Balance of Payments Statistics (BOPCOM),[3] which includes members from countries in all regions of the world and at all income levels, as well as participants from regional and international organizations (Bank for International Settlements, European Central Bank (ECB), Eurostat, Organisation for Economic Co-operation and Development, and United Nations).

4. **STA's cross-sector data consistency work has also been motivated by the Executive Directors' interest in better and more consistent data.** For example, the Executive Directors' support for establishing the SDDS Plus as an additional, higher tier within the data dissemination standards framework, enhancing data provision to the Fund for surveillance purposes, and addressing data gaps revealed during the ongoing global crisis, demonstrates their commitment to improving the quality and consistency of statistical data used by the Fund.

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[1] Real, external, government, and financial sectors.

[2] The establishment of the CSCG responded to a recommendation made by the earlier Cross-Sectoral Data Consistency Working Group in its final report of July 2011 following completion of a project on assessing STA data consistency.

[3] BOPCOM was established by the IMF's Executive Board in 1992 to improve the availability, consistency, and reliability of balance of payments and international investment position statistics worldwide and foster greater coordination of data collection among countries.

5. The remaining sections of the paper elaborate on how STA's cross-sector data consistency initiatives support STA's efforts to improve data quality; identify areas of statistics where inconsistencies are often found; discuss STA's cooperation with member countries and relevant international organizations to address cross-sector data inconsistencies; summarize STA's work with other Fund departments; identify main outcomes and initial findings of the CSCG's work; and discuss the next steps. The paper also includes three appendixes: the CSCG's Terms of Reference (Appendix I); the list of countries where follow-up has been conducted by STA on cross-sector data inconsistencies (Appendix II); and more detailed information on the indicators used for checking cross-sector data consistency (Appendix III).

HOW STA'S CROSS-SECTOR DATA CONSISTENCY INITIATIVES SUPPORT STA'S EFFORTS TO IMPROVE DATA QUALITY

6. Work on cross-sector data consistency supports STA's strategy to assess and improve the quality of data for surveillance and analysis purposes. Such work also supports data quality improvement goals that are articulated in several Board papers by STA and other Fund departments, including: Data Provision to the Fund for Surveillance Purposes; the G-20/IMFC Data Gaps Initiative (DGI); and the Fund's Data Standards Initiatives. The data quality improvements arising from STA's cross-sector consistency initiative contribute to improved assessments of country data under the Data Modules of the Reports on the Observance of Standards and Codes (ROSCs), which in turn rely on the Data Quality Assessment Framework (DQAF).

7. Data Provision to the Fund for Surveillance Purposes. As indicated in the staff paper on the 2012 Review of Data Provision to the Fund for Surveillance Purposes, accurate and timely data are necessary for effective IMF surveillance. The paper recognizes that improved macroeconomic statistics have been compiled and disseminated since the 2008 Review (in particular, in the area of inter-sectoral consistency); nonetheless, further work and vigilance is needed. The paper underscores the importance of improved macroeconomic statistics consistency (internal consistency, inter-sectoral consistency, and inter-temporal consistency) as a way to enhance the usefulness of data for surveillance purposes. In particular, inter-sectoral consistency is an integral part of bilateral surveillance, and large inconsistencies may cast doubt on the accuracy and reliability of data underlying Fund surveillance advice and country analysis.

8. The DGI. The DGI aims at closing information gaps highlighted by the recent crisis. The initial set of countries on which the CSCG focused its work encompassed all G-20 economies. As underscored in the DGI reports, improvement in their data is important not least because the data are closely watched and widely disseminated (they are posted on the Principal Global Indicators (PGI) website (http://www.principalglobalindicators.org/default.aspx)). The PGI provides selected statistical tables to facilitate the monitoring of economic and financial developments for G-20 and ten non-G-20 economies with systemically important financial sectors.

9. Furthermore, work under the DGI contributes to improving, inter alia, the understanding of sectoral interconnections in domestic economies. The sectoral accounts framework of the *System of National Accounts*, supported by the DGI,[4] promotes a coherent set of statistics and encompasses a set of identities. For example, in a coherent set of statistics, saving undertaken by resident sectors (from the national accounts) plus the current account balance between residents and nonresidents (from the balance of payments) is conceptually equivalent to capital formation (from the national accounts). Also, net exports from the balance of payments should be equal to net exports in GDP by expenditure. Further, national accounts break down the domestic economy by sectors (Nonfinancial Corporations, Financial Corporations, General Government, Households, and Nonprofit Institutions Serving Households), and several identities should hold between the accounts of these several resident sectors. Identities included in the sectoral account framework are used by the CSCG to identify cross-sector data inconsistencies.

10. The Fund's Data Standards Initiatives. The IMF undertook initiatives to develop dissemination standards in the mid 1990s, following the Mexican financial crisis, to promote the transparency of economic and financial statistics. Initially, the dissemination standards consisted of two tiers: (1) the Special Data Dissemination Standard (SDDS), a monitored standard designed to guide countries that have or might seek access to international capital markets in the dissemination of economic and financial data to the public; and (2) the General Data Dissemination System, a statistical development framework designed to guide countries in the provision of economic, financial, and socio-demographic data to the public. During the Eighth Review of the Data Standards Initiatives in February 2012, the Board broadly endorsed the SDDS Plus as an additional, higher tier within the data dissemination standards framework, with a view to addressing data gaps revealed during the recent global crisis. This higher tier is aimed mainly at countries with systemically important financial sectors, but all SDDS subscribers in full observance of SDDS requirements could adhere. The Board approved the Legal Text of the SDDS Plus in October 2012 and STA prepared and posted the *SDDS Plus Guide for Adherents and Users* in February 2013.[5]

11. The Fund's Data Standards Initiatives promote the public release of timely, comprehensive, accessible, and reliable macroeconomic statistics and metadata, because

[4] In the context of the DGI, STA is leading a working group on developing Sectoral and Other Financial and Economic Datasets (Recommendation #15). A data template on sectoral accounts was finalized in 2012 and G-20 economies and other countries are encouraged to implement the template by end–2014.

[5] Available at http://dsbb.imf.org/.

dissemination of such data and information contribute to the formulation of sound macroeconomic policies and efficient functioning of financial markets. In this context, STA's work on enhancing cross-sector data consistency supports STA's efforts in promoting the goals expressed in these standards.

12. The DQAF and ROSCs. The DQAF was developed as a tool to provide a systematic approach to assessing data quality. It brings together a structure and common language for good practices and internationally accepted concepts and definitions in statistics, including those of the United Nations *Fundamental Principles of Official Statistics* and the SDDS/GDDS. Data module ROSCs are undertaken using the DQAF and help in identifying deviations of country statistical practices against internationally accepted practices, and highlight ways to improve the quality of statistical products and agencies. The DQAF underscores, under the dimension *serviceability*,[6] the importance of both consistency within a particular dataset and of cross-sector data consistency.

AREAS OF STATISTICS WHERE INCONSISTENCIES ARE OFTEN FOUND

13. In organizing its work to identify and follow up on large inconsistencies, STA identified a first set of countries. This set encompassed G-20 economies and those non-G-20 economies with systemically important financial sectors; countries represented on the BOPCOM; countries with whom STA discussed inconsistencies during the 2012 IMF/World Bank Spring and Annual Meetings; and countries proposed by other Fund departments in response to the 2012 STA Director's memorandum informing the heads of IMF area departments and other relevant departments of the establishment of the CSCG. (The list of countries covered is presented in Appendix II.) Inconsistencies are analyzed by STA by looking at both percentage and absolute value differences. Inconsistencies that are sizable in terms of both percentage (above 25 percent) and absolute value (much more than ten million U.S. dollars) were the main focus of further STA review.

14. Further, to analyze cross-sector inconsistencies, the following indicators reported to or published by STA and considered to be important for IMF surveillance work were examined:

- Imports and Exports of Goods (Balance of Payments *versus* Direction of Trade Statistics; Balance of Payments *versus* International Merchandise Trade Statistics; International Merchandise Trade Statistics *versus* Direction of Trade Statistics);

[6] Five dimensions—assurances of integrity, methodological soundness, accuracy and reliability, serviceability, and accessibility—of data quality and a set of prerequisites for data quality are at the center of the DQAF.

- Central Bank's Foreign Assets and Foreign Liabilities; Other Depository Corporations' Foreign Assets and Foreign Liabilities (Monetary and Financial Statistics *versus* International Investment Position);

- Central Bank's Net Claims on Central Government; Depository Corporations' Net Claims on Central Government (Monetary and Financial Statistics *versus* Government Finance Statistics);

- Reserve Assets (International Investment Position *versus* Monetary and Financial Statistics; International Investment Position *versus* International Liquidity data; Monetary and Financial Statistics *versus* International Liquidity data).

15. More detailed information on the data series/indicators compared, including recent amendments to the list of indicators compared, is included in Appendix III.

16. The scope of the work on cross-sector data consistency takes account of priorities and resources. It is important to note that the scope of the work on cross-sector data consistency, both in terms of country coverage and pairs of indicators compared, takes account of other departmental activities and priorities, and of member countries' resource constraints. It is an area where work is being pursued on an incremental basis given the need to learn by experience. Furthermore, to avoid duplication of efforts within STA, the work on cross-sector data consistency does not automatically target inconsistencies for reserve assets (e.g., Reserves Data Template *versus* International Liquidity data in *International Financial Statistics* (*IFS*)), given that such comparison/checking processes are ongoing in STA. In particular, STA staff examine and follow up monthly on discrepancies between reserves, as reported on the Reserves Data Template and as submitted to STA for publication in *IFS*.

17. The analysis of comparisons between various data series/indicators mentioned above shows certain areas of statistics where inconsistencies are often found. For example, a high incidence of cross-sector data discrepancy is found between central banks' and other depository corporations (ODCs)' foreign assets and foreign liabilities, as reported to STA for monetary and financial statistics (MFS) and for the International Investment Position (IIP). Discrepancies between claims of central banks and depository corporations (DCs) on central government (and liabilities of these sectors to central government), as separately reported for the MFS and government finance statistics (GFS), also occur frequently.

MAIN OUTCOMES AND INITIAL FINDINGS

18. STA focused its cross-sector data consistency work on an initial set of countries. As indicated earlier, the first set of countries examined included, among others, G-20 economies with data inconsistencies,[7] non-G-20 economies with systemically important financial sectors,[8] and economies represented in the BOPCOM.[9]

19. The initial analysis of inconsistencies covered the period 2008–2010 (2011 when available). As noted earlier, data inconsistencies exist for most countries, regardless of their size and level of development. Such inconsistencies may arise from a variety of reasons, including methodological differences and different data vintages. Related to the former, the CSCG identified, for each pair of indicators compared, instances where inconsistencies in data may occur including because of differences in classification, sectorization, valuation, and time of recording.

20. Inconsistencies may occur because of methodological differences. Among such instances, we note that the classification by institutional sector of money market funds and so-called offshore banks (i.e., deposit-taking corporations that engage exclusively or almost exclusively with nonresidents) differs between external sector statistics and monetary and financial statistics; the treatment of goods that are transported across borders for processing but without any change in economic ownership differ between *International Merchandise Trade Statistics* (*IMTS*) and *Direction of Trade Statistics* (*DOTS*); the valuation of goods imports differs between external sector statistics and IMTS (f.o.b. versus c.i.f.); and the valuation of gold differs between the data reported to the IMF for publication in *IFS* for International Liquidity data (national valuation) and for the IIP and MFS (both at market value). Information on differences in international standards was included in STA's correspondence to countries, to facilitate understanding of reasons for inconsistencies and to focus the authorities' attention on identifying other possible reasons for inconsistencies, as relevant. The CSCG is maintaining a list of such inconsistencies that it will bring to the attention of relevant expert groups at appropriate future times for possible further consideration.

21. In the case of the initial set of countries analyzed, cross-sector inconsistencies occurred frequently in connection with the foreign assets and liabilities of central banks and ODCs, as reported to STA for MFS and for the IIP. Inconsistencies also frequently occurred in connection with claims and liabilities of central banks and DCs, as reported by MFS and GFS data compilers. The various data series covering data on imports and exports of goods, and on reserve assets, also frequently demonstrated inconsistencies.

[7] Argentina, Australia, Brazil, Canada, France, Germany, Indonesia, Italy, Japan, Korea, Mexico, South Africa, United Kingdom, and United States. The other G-20 economies were not contacted about inconsistencies because their data displayed no large inconsistencies (inconsistencies are avoided when reported data are consistent and also when data are reported for only one or neither of the indicators used in a comparison).

[8] Hong Kong, PRC, Switzerland, Spain, and Netherlands.

[9] Australia, Brazil, Canada, Germany, Ghana, Japan, Pakistan, South Africa, United States, Hong Kong, PRC, and Spain (apart from Ghana, Oman, and Pakistan, BOPCOM members are either G-20 economies or non-G-20 economies with systemically important financial sectors).

22. Common reasons for inconsistencies are listed below.

23. For Central Bank's Foreign Assets and Foreign Liabilities; ODCs' Foreign Assets and Foreign Liabilities (MFS *versus* IIP), common reasons for inconsistencies are related to differences in:

- Coverage of institutional units, and different sector classification of the same institutional unit;
- Coverage of financial instruments;
- Classifications of financial instruments by different sectors (e.g., foreign bonds attributed to ODCs in MFS but attributed to the government sector in IIP);
- Classification of financial instruments as held by residents/nonresidents (e.g., instruments are classified as held by residents in MFS but as held by nonresidents in IIP, or vice versa);
- Valuation of financial instruments;
- Recording and valuation of financial derivatives;
- Revisions that are not consistently undertaken for MFS and IIP;
- Errors in source data used for one (but not both) of the indicators compared;
- Use of inconsistent data sources that are not reconciled;
- Exchange rate differences.

24. For Central Bank's Net Claims on Central Government; DCs' Net Claims on Central Government (MFS *versus* GFS), common reasons for inconsistencies are related to differences in:

- Coverage of institutional units;
- Accrual accounting versus cash recording;
- Emphasis on transactions in one data series (GFS) versus change in stocks in the other data series (MFS).

25. For Imports and Exports of Goods (IMTS *versus* DOTS; BOP *versus* IMTS; DOTS *versus* IMTS), common reasons for inconsistencies are related to differences in:

- Coverage of data;
- Valuation (f.o.b. versus c.i.f.);

- Differences in the treatment of goods that are transported across borders for processing but without any change in economic ownership;
- Different time of recording;
- In addition, inconsistencies may arise due to dissemination of estimated data for *DOTS* versus direct reporting by countries.

26. For Reserve Assets (IIP *versus* MFS; IIP *versus* International Liquidity data; MFS *versus* International Liquidity data), although inconsistencies do not occur frequently, common reasons for differences are:

- Misclassification of accounts;
- Revisions that are not consistently undertaken for MFS, IIP, and International Liquidity data.

27. An important main outcome of the work has been that member countries, in collaboration with STA, have identified and implemented several ways to address inconsistencies:

- Adopted corrected, and consistent, coverage of institutional units and of financial instruments;
- Improved primary source data;
- Established working groups or new procedures to identify and resolve inconsistencies (such as regular meetings of units/agencies concerned);
- Revised/reconciled data, and submitted timely revised data to STA for re-dissemination.

28. A measure of the progress achieved in addressing data inconsistencies, and of work that remains to be done, may be obtained by reviewing the size of inconsistencies, as reported to STA before follow-up with the initial set of countries compared to their size after STA follow-up. As noted, STA focused its follow-up efforts on discrepancies exceeding 25 percent difference between the two indicators being compared and that also were large in terms of absolute value (absolute difference between the same pair of indicators being compared.) As an example, in the case of Brazil (one of the first countries that took steps to address cross-sector data inconsistencies and submitted revised data to STA), the difference between ODCs' foreign liabilities reported to STA for MFS and IIP for 2011 was reduced from 184 percent (91 billion U.S. dollars) to 14 percent (21 billion U.S. dollars). Although it is not always apparent whether data revisions and corrections resulted from STA follow-up of inconsistencies versus another reason, the following countries submitted revised data to STA after being contacted concerning data inconsistencies: Bangladesh, Bhutan, Botswana, Brazil, El Salvador, Indonesia, Kazakhstan, Mauritius, Mexico, Pakistan, South Africa, Uruguay, and United States.

29. Most of the countries indicated above significantly revised their data. In particular, significant reductions in the size of inconsistencies are observed in exports (Bangladesh and Kazakhstan); central bank's foreign liabilities (Bhutan); central bank's and ODCs' foreign liabilities, and central bank's and DCs' net claims on central government (Brazil); DCs' net claims on central government (El Salvador); central bank's and ODCs' foreign liabilities (Indonesia); central bank's and DCs' net claims on central government, ODCs' foreign assets, and central bank's foreign liabilities (Mauritius); ODCs' foreign liabilities (Mexico); imports and central banks' foreign assets (Pakistan); ODCs' foreign assets and foreign liabilities (United States); and imports (Uruguay).

30. On the other hand, many inconsistencies persist, and new inconsistencies may sometimes arise. A significant initial finding is that countries may face challenges in improving cross-sector data consistency. In particular, member country resource constraints often limit the scope of their work in the short– and medium–term.

31. A number of countries have provided feedback to STA, and countries have consistently welcomed STA's work in this area. Countries have noted that STA's initiative raises the awareness of the importance of macroeconomic statistical consistency, and contributes to strengthened collaboration among data producing agencies and among various units of a given data producing agency. During the January 2013 meeting of BOPCOM, members were strongly supportive of STA work on cross-sector data consistency. Several BOPCOM members were from countries that were approached regarding inconsistencies, and they noted improvements to their countries' data arising from interactions with the CSCG.

COOPERATION WITH MEMBER COUNTRIES AND OTHER RELEVANT INTERNATIONAL ORGANIZATIONS

32. Close cooperation with member countries and with other relevant international organizations that disseminate data for member countries is essential to the success of STA's work on data consistency. More specifically, a number of agencies within a country may be involved in compiling macroeconomic statistics for the respective member country and these agencies need to work together to resolve any inconsistencies identified by STA.

33. STA used the opportunities provided by the 2012 IMF/World Bank Spring and Annual Meetings to meet with countries for which large inconsistencies were identified and discuss matters related to these inconsistencies. Follow-up action items were identified, and these have been monitored closely to move forward the work on data consistency.

34. While most of the work on cross-sector data consistency has been conducted from IMF headquarters through correspondence with member countries, STA also considers technical assistance (TA) missions to be an important tool in discussing and resolving data inconsistencies. In particular, a multisector mission to Mauritius in early 2013 undertook cross-sector consistency work. The mission, which built upon progress already achieved through correspondence from headquarters,[10] reviewed inconsistencies in data pertaining to the full list of indicators shown in Appendix II; identified reasons for inconsistencies; and agreed with the authorities on ways to resolve inconsistencies, where appropriate.

35. In addition to corresponding with member countries to request that they address identified inconsistencies, in a few cases STA was able to resolve inconsistencies internally. The collaborative effort within STA allowed for resolving some inconsistencies internally in the department, after which STA corresponded with member countries to inform them of STA's findings.

36. In addition, STA cooperates closely with other relevant international organizations—particularly, the ECB and Eurostat—that also have projects underway to identify and resolve inconsistencies in data provided by their members. The ECB and Eurostat have indicated their support for STA's initiative, and STA has been coordinating with them to follow-up with member countries on some common issues to avoid a duplication of efforts (e.g., no correspondence was sent to ECB member countries on inconsistencies between MFS and IIP because the ECB has been closely following up on such inconsistencies).[11]

COOPERATION WITH OTHER FUND DEPARTMENTS

37. As indicated above, cooperation with other Fund departments is essential to the success of STA's work on enhancing cross-sector data consistency. In this context, it should be noted that, in May 2012, STA's Director informed the heads of IMF area departments and of other relevant departments of the establishment of the CSCG to lead STA's work on further enhancing data consistency. STA received strong support and useful suggestions, including names of countries to consider reviewing and indicators to be compared. Suggestions from other Fund departments were incorporated in STA's initial work.[12]

38. Further, STA followed up with other Fund departments, to inform them of outcomes of the cross-sector consistency work. More specifically, STA followed up with other Fund departments to inform them of how their suggestions were addressed in the initial work, and also to update them on progress achieved.

[10] Inconsistencies between central bank's and ODCs' foreign assets and foreign liabilities, as reported separately for MFS and IIP, were addressed through correspondence from headquarters. The inconsistencies arose because some Global License Companies included in the IIP beginning with 2009 were not covered in MFS.

[11] See "Euro Area Balance of Payments and International Investment Position Statistics," at http://www.ecb.int/pub/pdf/other/euroareabalanceofpaymentsiipstatistics201203en.pdf.

[12] For example, based on suggestions from other departments, STA included Bangladesh in the list of countries for follow up and added a new indicator for checking cross-sector consistency (general government assets/liabilities in GFS *versus* IIP).

39. In addition, the Mauritius multisector mission liaised with the AFR Article IV mission, with which it overlapped in January 2013. The AFR team shared important information on data weaknesses with the STA team, including data on cross-sector data consistency issues (balance of payments *versus* national accounts; GFS *versus* national accounts). The work of the STA mission greatly benefited from such close cooperation.

NEXT STEPS

40. The recent work undertaken by STA has yielded significant positive results in a relatively brief period of time. Therefore, the next steps involves expanding this work to eventually cover all countries and monitoring inconsistencies on an ongoing basis so that they are not allowed to persist without follow-up with countries.

41. In addition, STA will explore discrepancies related to data reported on the IMF's Coordinated Direct Investment Survey (CDIS). Discrepancies could occur between data reported in the CDIS (e.g., bilateral data reported by countries for a specific position, such as inward Direct Investment reported by country X from country Y, compared to outward Direct Investment reported by country Y to country X, as reported to STA by these countries in the context of the CDIS), and STA will explore such discrepancies.

42. STA also plans to maintain a list of methodological differences among the major macroeconomic statistical manuals. As the work on cross-sector data consistency progresses, STA will maintain a list of methodological differences among the major macroeconomic statistics manuals and bring such differences to the attention of relevant agencies and bodies.

43. Importantly, STA will continue to work with other Fund departments. In this way, STA will assure that the relevant Fund departments remain aware of significant inconsistencies and of reasons for potentially sizable corrections to data.

44. STA plans to undertake these extensions of its cross-sector data consistency work within its budget envelope.

Appendix I. Terms of Reference: STA's Cross-Sector Consistency Group

Background

The Cross-Sector Consistency Group (CSCG) has been established by STA in recognition of the importance of addressing inconsistencies in data that are reported to STA for different economic sectors: the real sector, external sector, government sector, and financial institutions sector. Data consistency is needed for economic analysis and surveillance purposes, and inconsistencies in published data pose reputational risks to the Fund and STA.

The establishment of the CSCG was recommended by the Cross-Sectoral Data Consistency Working Group in its final report of July 2011. A main finding of the Working Group was that data inconsistencies exist for most countries, regardless of their size and level of development. This finding underscores the need for STA to develop and implement a project to identify and address inconsistencies. The CSCG will build upon the work of the Cross-Sectoral Data Consistency Working Group, and will be the central coordinating body for the cross-consistency work in STA.

The work of the CSCG has the strong support of STA management. The members of the CSCG are expected to allocate time to contribute to this project, and staff in STA divisions are expected to play an active role to pursue consistency of reported data. In addition, the efforts of member countries, both internally (i.e., successful interagency collaboration within a given member country to resolve inconsistencies) and externally (i.e., by the member country with major counterpart countries, and with the IMF) are key for success. Collaboration and consultation between the CSCG and other IMF departments is also necessary.

Main Objective, Activities, and Processes

The main objective of the CSCG is to promote enhanced consistency among various macroeconomic datasets, which will further support the Fund's surveillance work, respond to the needs for sound economic analysis, and improve the quality of data published by STA. In this connection, the CSCG will provide a forum to identify and discuss data inconsistencies, as well as plans and actions to address them, and will monitor progress in these undertakings.

The CSCG's work ahead will be pursued on an incremental basis given the need to learn by experience and in light of other divisional/departmental activities and priorities. The CSCG will meet according to a schedule that will be established by its chair in consultation with its members.

In the current set up, it is foreseen that inconsistencies among datasets will be addressed, to the extent possible, through TA following the procedures already developed under the Technical Assistance Management (TAM) and posted on the STA Share Point at http://www-intranet.imf.org/departments/STA/internal/TAManagement/Pages/default.aspx. However, it is noted that inconsistencies exist for most countries, including G-20 and other developed countries where TA missions may not be routinely conducted. For inconsistencies, the STA's Statistical Information Management Division (SI) will provide reports to CSCG on data series comparisons agreed within the CSCG. CSCG will bring these inconsistencies to the attention of the relevant divisions and, where relevant, country coordinators, and follow up towards their resolution.

Given the importance for surveillance work, the CSCG will focus on the following data series:

- Balance of Payments compared to Monetary and Financial Statistics: Reserve assets, Central Bank foreign assets, Central Bank foreign liabilities, Other Depository Corporations foreign assets, and Other Depository Corporations foreign liabilities;

- Balance of Payments compared to National Accounts Statistics: Current account, Saving, Capital formation, Exports of goods and services, and Imports of goods and services;

- Monetary and Financial Statistics compared to Government Finance Statistics: Central Bank and Other Depository Corporations financing of central government;

- The work on data inconsistencies will also look at the bilateral data reported by countries for a specific position (e.g., inward Direct Investment in country X by country Y with outward Direct Investment data by country Y in country X, as reported in the context of Coordinated Direct Investment Survey).

Many data inconsistencies will involve two (or perhaps even more) STA's topical divisions. In such a circumstance, the staff in all affected divisions will collaborate in preparing a correspondence to the agencies in the countries that reported the data to STA, in order to bring the inconsistency to their attention and begin work to resolve it. Outcomes of the divisional follow-ups will be shared with the CSCG for the purpose of review.

SI support will be required to identify major inconsistencies; produce a template that can be shared with countries highlighting their major inconsistencies, and provide other IT support to the project, including developing a suitable IT tool to automate regular data consistency validation and generate summary country reports.

STA Country Coordinators will receive information on major data inconsistencies in their country of responsibility and will be kept apprised of efforts to resolve such inconsistencies. In their other routine work assignments (including preparation of briefs for annual and spring meetings), they should note major data inconsistencies.

STA Regional Managers will support the work of the CSCG. They will assure that mission proposal letters mention, as appropriate, mission activities associated with data inconsistencies. Regional Managers will also support the CSCG by selecting missions to undertake cross-sector consistency work, in close consultation with CSCG. The selection of missions will take account of the level of inconsistencies as highlighted in the tables generated by SI and reviewed by CSCG, with the aim of having missions to countries with a high level of inconsistencies.

STA Topical divisions will include the resolution of data inconsistencies in their work plans. In addition, training of STA staff on linkages among macroeconomic statistics and cross-sector consistency should be organized.

CSCG Composition

The CSCG is comprised of a chair and seven members with one economist from each of the STA topical divisions (BP, FI, GO, RE,) and DR, and two research staff from SI. The group is chaired by a STA Deputy Division Chief, and its work is overseen by a Front Office Advisor.

Reporting

The CSCG will prepare a written report once every six months to the STA TAM. The written report will focus on major data inconsistencies identified during the period covered by the report; and status of progress/actions of addressing data inconsistencies, including outcomes of missions that discussed inconsistencies, planned missions that will tackle data consistency matters, follow-ups with countries by topical divisions and their outcomes. Oral reports will be provided to the TAM periodically. The CSCG will meet regularly, including with the Front Office Advisor; a member of the CSCG will be appointed to take minutes of its meetings.

The CSCG work will support other STA initiatives, such as the G-20/IMFC Data Gaps Initiative, and will deliver reports to the Inter-Agency Group on Economic and Financial Statistics and STA's Task Force for Methodology and Data Initiatives on an "as required" basis.

CSCG Composition

Chair

Ms. Florina Tanase, Deputy Division Chief	Balance of Payments Division

Members

Mr. Johan Mathisen, Deputy Division Chief	Statistical Information Management Division
Ms. Margaret Fitzgibbon, Senior Economist	Real Sector Division
Ms. Tamara Razin, Senior Economist	Balance of Payments Division
Ms. Yuko Hashimoto, Senior Economist	Data Dissemination and Review Division
Ms. Phebby Kufa, Senior Economist[1]	Government Finance Division
Mr. Agus Firmansyah, Economist	Financial Institutions Division
Mr. Neil Austriaco, Deputy Section Chief[2]	Statistical Information Management Division
Mr. Francis Bobadilla, Info. Mgmt. Officer	Statistical Information Management Division

[1] Replacing Luis Arturo Jimenez who served as CSCG member until mid–April 2013.

[2] Replacing Ken Kirkley who served as CSCG member until early September 2012.

Appendix II. List of Countries for Follow-Up on Cross-Sector Data Inconsistencies

IDENTIFIED INCONSISTENCIES: COUNTRIES WITH WHOM STA FOLLOWED UP

	Countries	PAIR OF INDICATORS COMPARED														
		NCG_CB	NCG_DC	FA_CB	FA_ODC	FL_CB	FL_ODC	Exports			Imports			Reserve Assets		
		GFS vs MFS	GFS vs MFS	MFS vs IIP	MFS vs IIP	MFS vs IIP	MFS vs IIP	DOTS vs BOP	IMTS vs BOP	IMTS vs DOTS	DOTS vs BOP	IMTS vs BOP	IMTS vs DOTS	BOP vs ILQ	MFS vs BOP	MFS vs ILQ
1	Argentina					X	X									
2	Australia			X	X	X	X									
3	Bangladesh						X	X	X							
4	Barbados			X		X	X				X		X		X	X
5	Bhutan				X	X	X							X		
6	Bosnia and Herzegovina					X			X	X		X	X			
7	Brazil	X	X		X	X	X									
8	Canada			X	X	X	X								X	X
9	China, P.R.: Hong Kong					X										
10	Colombia		X		X	X										
11	Egypt					X	X									
12	El Salvador	X	X	X	X	X	X								X	X
13	France						X									
14	Germany			X	X	X	X									
15	Ghana							X		X						
16	Honduras	X	X			X		X	X							
17	Indonesia					X	X									
18	Italy						X									
19	Japan			X	X	X									X	X
20	Kazakhstan			X		X		X		X		X				
21	Korea, Republic of				X	X	X									
22	Malta	X	X					X								
23	Mauritius		X		X	X										
24	Mexico				X	X	X									
25	Netherlands						X									
26	Pakistan				X		X				X					
27	Serbia								X	X			X			
28	South Africa				X	X	X									
29	Spain						X									
30	Sudan				X	X		X								
31	Switzerland					X		X	X		X	X				
32	Thailand	X	X			X	X									
33	United Kingdom			X		X										
34	United States			X	X	X	X							X	X	X
35	Uruguay				X	X	X				X		X			

Notes:

X: Inconsistencies were identified
BOP: Balance of Payments
DOTS: Direction of Trade Statistics
GFS: Government Finance Statistics
IIP: International Investment Positions
ILQ: International Liquidity Data
IMTS: International Merchandise Trade Statistics

MFS: Monetary and Financial Statistics
NCG_CB: Net Claims on Central Government for Central Bank
NCG_DC: Net Claims on Central Government for Depository Corporations
FA_CB: Foreign Assets for Central Bank
FA_ODC: Foreign Assets for Other Depository Corporations
FA_ODC: Foreign Assets for Other Depository Corporations
FL_ODC: Foreign Liabilities for Other Depository Corporations

Appendix III. Indicators Used for Checking Cross-Sector Consistency

1. The section "Areas of Statistics Where Inconsistencies are Often Found" indicates the list of pairs of indicators reported to STA and on which STA's cross-sector data consistency initiative focuses as they are considered to be important for IMF surveillance work.

2. In consideration of methodological changes brought by the sixth edition of the *Balance of Payments and International Investment Position Manual* and comments provided by area departments in response to the STA Director's memorandum, the initial list of pairs of indicators compared was recently amended. The amended list is presented below:

- Imports and Exports of Goods (Balance of Payments *versus* DOTS; Balance of payments *versus* IMTS; IMTS *versus* DOTS);
- Central Bank's Foreign Assets and Foreign Liabilities; Other Depository Corporations' Foreign Assets and Foreign Liabilities (MFS *versus* IIP);
- Central Bank's Claims on Central Government; Other Depository Corporations' Claims on Central Government; Central Bank's Liabilities to Central Government; Other Depository Corporations' Liabilities to Central Government (MFS *versus* GFS);
- Reserves Assets (IIP *versus* MFS; IIP *versus* International Liquidity data; MFS *versus* International Liquidity data);
- General Government Assets; General Government Liabilities (IIP *versus* GFS).